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EXAMINER

LEE, CHRISTOPHER E

ART UNIT PAPER NUMBER

2181

DATE MAILED: 08/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/591,258

Applicant(s)

LEACH, MARK

Examiner

Christopher E. Lee

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 June 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "119" has been used to designate both Voltage Monitoring and Connect/Disconnect Interface.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

a) Note the reference signs 120 and 114 on page 5, line 19.

b) Note the reference sign 117 on page 5, line 24.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description:

a) Note the reference signs 112, 114, 150, 160 and 180 in Fig. 1.

A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

4. The disclosure is objected to because of the following informalities:

a) Substitute "the processor 108" by --the processor 208-- on page 8, line 3 and on page 9, line 8.

b) Substitute "interface 218" by --interface 228-- on page 8, lines 7 and 16.

Appropriate correction is required.

*Claim Objections*

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The limitation "the microprocessor is further operative to generate the status message in a format untransmittable by the output device" in the claim 7, lines 2-3 is a subject matter which is not provided by a proper antecedent basis for the claimed subject matter.
6. Claim 10 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claim is of dependent form to further limit the subject matter of a proceeding claim 11. It is an improper dependent form.

*Claim Rejections - 35 USC § 112*

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
8. Claims 1, 7, 9 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitations "the current status" in line 2, and "the signal format" in line 8.

Claim 7 recites the limitations "the signal format" in line 5.

Claim 9 recites the limitations "the input signal" in line 1.

Claim 11 recites the limitations "the input interface" in line 7, "the universal bus" in line 12, "the signal format" and "the output device" in line 13, and "the slot" in line 14.

There are insufficient antecedent bases for these limitations in those claims.

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*Claim Rejections - 35 USC § 102*

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1,3 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Thornborough et al. [USPN 5,031,209].

Referring to claim 1, the term “the current status” is considered as --a current status--, and the term “the signal format” is considered as --a signal format-- because of the claim rejection – 35 USC § 112, 2<sup>nd</sup> paragraph about the term “the current status” and the term “the signal format” in the claim. Thornborough et al. disclose a method for transmitting (See col. 14, lines 15+ and Fig. 7) a status message (Transmitted Data to Call Collection Module) containing a current status (Status Flags and Meter Reading; See col. 16, lines 29-40) of an input device (utility meter 250 of Fig. 6), comprising; receiving an input signal (meter pulses and impedance of lead line 15 of Fig. 1) from said input device; determining whether said input signal (i.e., impedance of lead line ) reaches a preset value (initial charge of capacitor 254 of Fig. 6). Refer to col. 12, line 15+ about “Lead line supervision (Fig. 6)”; in response to determining that said input signal has reached a preset value (initial charge of capacitor 254 of Fig. 6), initiating a status message (lead line condition report; See col. 14, lines 6-14); determining a signal format (CCITT/BELL signal) of an output device (telephone interface circuit 42 of Fig. 1). Refer to col. 6, lines 43-50; in response to determining said signal format of said output device, formatting said status message to match said output device signal format (See col. 6, lines 62-68); and transmitting said status message (See col. 29, line 54 through col. 30, lines 35).

Referring to claim 3, Thornborough et al. disclose said input device is a utility meter (utility meter 250 of Fig. 6).

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Referring to claim 5, Thornborough et al. disclose said step of, in response to determining said signal format of said output device, formatting said status message to match said device signal format, is performed by a universal communications interface (FSK BELL transmitter 53, FSK CCITT transmitter 54, line 61, buffer 62 and MUX 55 of Fig 3 as combined).

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thornborough et al. [USPN 5,031,209] in view of Shuey et al. [USPN 5,923,269].

Referring to claim 2, Thornborough et al. disclose all the limitations of claim 2 except that do not teach a second output device. Shuey et al. disclose an energy meter with multiple protocols, comprising the step of: determining that a second output device (UART and Communication Processor in Fig. 2 as combined) exists (See col. 2, lines 54-55 and claims 1 and 10; i.e., wherein the fact that a utility meter communicatively coupled to a CEBus LAN transceiver (i.e., UART) implies determining that an output device exists (i.e., an output device is communicatively coupled to an UART)); in response to determining that a second output device (UART and Communication Processor in Fig. 2 as combined) exists, duplicating said status message (i.e., meter message) as a second status message (See col. 2, line 65 through col. 3, line 12; wherein the fact is the capability to pass messages through the meter into the CEBus network implies a capability of a message duplication); determining (i.e., communicatively coupled) a signal format (i.e., CEBus protocol format) of a second output device (UART; See claims 11 and 13); in response to determining said signal format of said second output device, formatting said second status message to match said second output device signal format (See col. 2, line 62 through col.

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3, line 3); and transmitting said status message across said second output device (See col. 3, lines 32-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said multiple protocols capability in said energy meter, as disclosed by Shuey et al., in said method, as disclosed by Thornborough et al., for the advantage of making said method adaptive to higher functions (See col. 2, line 43 of Shuey et al.).

13. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thornborough et al. [USPN 5,031,209] in view of Reed et al. [USPN 6,304,231 B1].

Referring to claim 4, Thornborough et al. disclose all the limitations of claim 4 except that do not teach said input device is a radio frequency transmitter attached to a utility meter. Reed et al. teach a utility meter, wherein an input device (standard type utility meter assembly 10 of Fig. 1) is a radio frequency transmitter (module 28 of Fig. 1; See col. 2, lines 49 and 56-57) attached to a utility meter (See col. 1, lines 60-62 and col. 2, lines 24-27 and 47-63), and a receiving means for a transmitted signal (i.e., usage data) in the form of radio frequency (See col. 4, lines 20-21). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted said utility meter and said receiving means, as disclosed by Reed et al., for said input device and said receiving means, as disclosed by Thornborough et al., for the advantage of a remote meter reading capability (See abstract of Reed et al.).

14. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thornborough et al. [USPN 5,031,209] in view of Clayton et al. [USPN 5,875,234].

Referring to claim 6, Thornborough et al. disclose a system (automatic meter reading 10 of Fig. 1) for monitoring a utility status (See col. 4, line 51 through col. 5, line 2), comprising: an input device (utility meter 250 of Fig. 6), operative to transmit a utility status (meter pulses 246 and lead line status 247 of Fig. 6); an input interface (transducer circuit 252 of Fig. 6), operative to receive said utility status from said input device (See col. 4, lines 51-8); a microprocessor (micro-computer 22 of Fig. 1), operative

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to monitor said utility status (See col. 5, lines 7-11 and 20-24) received by said input interface and further operative to generate a status message (Transmitted Data to Call Collection Module; See col. 16, lines 29-40) based on the utility status (i.e., Status Flags and Meter Reading); a universal bus (TX\_IN 49 and buffer 52 of Fig. 3 as combined), operative to relay said status message from said microprocessor (See col. 29, lines 55-64); a universal communications interface (FSK BELL transmitter 53, FSK CCITT transmitter 54, line 61, buffer 62 and MUX 55 of Fig 3 as combined), operative to receive said status message from said universal bus (See Fig. 3 and col. 29, lines 54+; Flow Control for Transmitter).

Thornborough et al. do not disclose a slot in said system. Clayton et al. disclose a slot (i.e., bus slot), operative to receive an output device (i.e., telecommunication system), said slot connected by a data path to said universal communications interface (i.e., for connecting to a bus slot of a computer of form a data path with the computer) . Refer to the claim 19. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said slot (i.e., bus slot), as disclosed by Clayton et al., in said system, as disclosed by Thornborough et al., for the advantage of providing a convenience of version upgrade for said output device (i.e., telephone interface circuit) by way of a slot insertion/deletion operation.

Referring to claim 7, the term "the signal format" is considered as --a signal format-- because of the claim rejection – 35 USC § 112, 2<sup>nd</sup> paragraph about the term "the signal format" in the claim.

Thornborough et al. in view of Clayton et al. disclose said system of claim 6, wherein: said microprocessor is further operative to generate said status message in a format untransmittable by said output device (i.e., serial data form from serial communication interface of microprocessor cannot be transmitted by the telephone interface circuit before being processed by FSK transmitter based on the transmission format BELL of CCITT implies microprocessor is operative to generate a status message (TX\_IN 49 of Fig. 3 from Thornborough et al.) in a format (i.e. serial data format of Thornborough et al.) untransmittable by said output device (i.e., because the serial data format should be processed by FSK



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transmitter via the signal routing)); said universal communications interface (i.e., FSK BELL transmitter 53, FSK CCITT transmitter 54, line 61, buffer 62 and MUX 55 of Fig 3 of Thornborough et al. as combined) is further operative to determine a signal format (i.e., CCITT/BELL signal of Thornborough et al.) of said output device (i.e., telephone interface circuit of Thornborough et al.) upon receipt of said output device by said slot (i.e., bus slot of Clayton et al.); and said universal communications interface is further operative to convert (i.e., change into transmittable form according to Thornborough et al.) said status message from said original format to a format transmittable by said output device (i.e., from serial data form to BELL/CCITT form according to Thornborough et al.).

Referring to claim 8, Thornborough et al. disclose said input device is a utility meter (utility meter 250 of Fig. 6).

15. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thornborough et al. [USPN 5,031,209] in view of Clayton et al. [USPN 5,875,234] as applied to claims 6-8 above, and further in view of Turino et al. [USPN 5,994,892].

Referring to claims 9 and 10, the term "the input signal" in the claim 9 is considered as --an input signal-- because of the claim rejection -- 35 USC § 112, 2<sup>nd</sup> paragraph about the term "the input signal" in the claim 9, and the dependency of the claim 10 is considered as the dependent of claim 9 because of the improper dependent form. See Claim Objection about the claim 10. Thornborough et al. in view of Clayton et al. disclose all the limitations of claims 9 and 10 except that do not teach 1) an input signal is a voltage level, and 2) said input interface is an analog-to-digital converter. Turino et al. disclose an automatic utility meter, wherein 1) an input signal (VIN1 line 198, VIN2 line 230 and VIN3 line 232 in Fig. 12) is a voltage level (See col. 18, lines 1-3), and 2) an input interface (A/D U4 of Fig. 12) is an analog-to-digital converter (See col. 17, lines 41-55) further operative to convert said voltage level signal to a series of digital packets (See col. 13, lines 60-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said input device with said

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input signal and its input interface, as disclosed by Turino et al., in said system, as disclosed by Thornborough et al. in view of Clayton et al., for the advantage of providing a capability of electricity power utility metering.

Referring to claim 11, the term “the input interface” is considered as --an input interface--, the term “the universal bus” is considered as --an universal bus--, the term “the signal format” is considered as --a signal format--, the term “the output device” is considered as --an output device-- and the term “the slot” is considered as --a slot-- because of the claim rejection – 35 USC § 112, 2<sup>nd</sup> paragraph about the term “the input interface”, the term “the universal bus”, the term “the signal format”, the term “the output interface” and the term “the slot” in the claim. Thornborough et al. in view of Clayton et al. and Turino et al. disclose a system (automatic meter reading 10 of Fig. 1 from Thornborough et al.) for monitoring a utility meter (i.e., electricity, water and gas meters; See Fig. 12 of Turino et al. and utility meter 250 of Fig. 6 and col. 4, line 51 through col. 5, line 2 from Thornborough et al.), comprising: an analog-to-digital converter (A/D U4 of Fig. 12 from Turino et al.), operative to receive a utility status (i.e., voltage level signal; See col. 17, lines 41-55 of Turino et al.) from said utility meter, said analog-to-digital converter further operative to convert said utility status from an analog waveform to a series of digital packets (See col. 13, lines 60-65 and col. 17, lines 41-55 of Turino et al.); a microprocessor (micro-computer 22 of Fig. 1 from Thornborough et al.), operative to monitor said utility status (See col. 5, lines 7-11 and 20-24 of Thornborough et al.) received by an input interface (transducer circuit 252 of Fig. 6 from Thornborough et al.) and further operative to generate a status message (Transmitted Data to Call Collection Module; See col. 16, lines 29-40 from Thornborough et al.) based on the utility status (i.e., Status Flags and Meter Reading from Thornborough et al.); a universal bus (TX\_IN 49 and buffer 52 of Fig. 3 as combined from Thornborough et al.), operative to relay said status message from said microprocessor (See Fig. 3 and col. 29, lines 54+; Flow Control for Transmitter from Thornborough et al.); a universal communications interface (FSK BELL transmitter 53, FSK CCITT transmitter 54, line 61, buffer 62 and MUX 55 of Fig 3

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as combined from Thornborough et al.), operative to receive said status message from a universal bus (TX\_IN 49 and buffer 52 of Fig. 3 as combined from Thornborough et al.), further operative to determine a signal format (CCITT/BELL signal from Thornborough et al.) of said output device (i.e., telephone interface circuit of Thornborough et al.) upon receipt of said output device by a slot (i.e., bus slot of Clayton et al.), and further operative to convert (i.e., change into transmittable form according to Thornborough et al.) said status message from said original format to a format transmittable by said output device (i.e., from serial data form to BELL/CCITT form according to Thornborough et al.); a slot (i.e., bus slot of Clayton et al.), operative to receive an output device (i.e., telecommunication system of Clayton et al.), said slot connected by a data path to said universal communications interface (i.e., “for connecting to a bus slot of a computer of form a data path with the computer” of Clayton et al.) . Refer to the claim 19 of Clayton et al..

### *Conclusion*

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Janky [USPN 5,914,941] discloses portable information storage/playback apparatus having a data interface.

Shincovich et al. [USPN 5,590,179] disclose remote automatic meter reading apparatus.

Carney [USPN 5,473,322] discloses apparatus and method for sensing tempering with a utility meter.

Galpern [USPN 5,111,407] discloses system for measuring and recording a utility consumption.

Olson et al. [USPN 5,451,937] disclose universal generator interface module.

Rothstein [USPN 4,485,439] discloses standard hardware-software interface for connecting any instrument which provides a digital output stream with any digital host computer.

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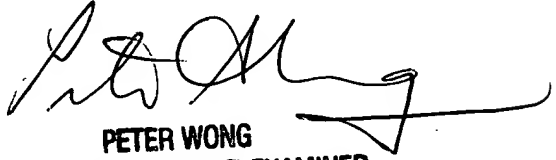
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher E. Lee whose telephone number is 703-305-5950. The examiner can normally be reached on 9:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter S. Wong can be reached on 703-305-3477. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3718 for regular communications and 703-746-9248 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Christopher E. Lee  
Examiner  
Art Unit 2181

cel/ *cel*  
August 9, 2002

  
PETER WONG  
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